Public Expenditure and Economic Growth: Econometric Models from Developing Countries

SYNOPSIS

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1.0 Introduction

Sustained and equitable economic growth is clearly a predominant objective of public expenditure policy. Many public programs are specifically aimed at promoting sustained and equitable economic growth. Public expenditures can--and have--played an important role in physical and human capital formation over time. Appropriate public expenditures can also be effective in boosting economic growth, even in the short run, when limits to infrastructure or skilled manpower become an effective constraint to an increase in production.

Therefore, the effect of public expenditures on economic growth may be a comprehensive indicator of public expenditure productivity. Ideally, the two components of such an indicator should be measurable: the contribution of public sector outputs to economic growth, and the efficiency with which these expenditures yield their outputs. By pointing to a set of public sector outputs as particularly conducive to economic growth, as well as to the efficiency with which the expenditures contribute to public sector production, empirical studies on expenditures and growth can suggest ways to improve public expenditure composition and productivity.

1.1 Public Expenditure: Concept

The functions of the state were limited till 20thcentury. Hence, public expenditure was not given more importance as the pubic revenue. The revenue rose in excess of the need to meet the expenditure on maintaining law and order was thought to be undesirable. In modern day, there is considerable change in the thinking about the function of government. The present state is a welfare state. Hence, the government will have to be active in building social infrastructure, but also in making provision of social services like education; health, employment, drinking water and industrial development. Due to this, the government expenditure has increased significantly in 20th century. Consequently, the interest on the study of public expenditure has also increased.

According to World Bank **[1]** "Public or government expenditure is the expenditure of public authority - central, state and local governments". This expenditure is made to protect the citizen and to promote their social and economic welfare. The Public Expenditure is incurred on various activities for the welfare of the people and also for the economic development, especially in developing countries.

1.1.1Importance of Public Expenditure

The public expenditure plays a decisive role in development. According to World Bank**[2]** — "Public spending plays a critical in development. Through spending, governments promote

[1]http://siteresources.worldbank.org/PSGLP/Resources/PublicExpenditureAnalysis.pdf ;

[2]ibid

National identity, supply infrastructure for development, influence both the course of economic growth and distribution of its benefits, and provide social services to meet the basic needs of the population".

The main task of the government in a developing country is to accelerate the pace of economic growth and development. The rapid economic development cannot be thought without the government effort since the private sector is overly profit motivated. The economic plan is launched for rapid economic development. The government spends a large sum of money to achieve the objectives and targets fixed in the plan and execute the programmers designed in the economic plan. The government directly invests in agriculture, industry and commerce for economic development. One reason behind the establishment of public enterprises is economic development.[3]

The government provides social services to the person which is called the social function of the government. The government provides different services to poor, disable, unemployed and on. The examples of this are the provision of health and unemployment insurance, old-age allowance, widow allowance, disable allowance. Besides, the government makes provision of public parks, museum, library, sanitation, education, healthcare facilities. The provisions of these social services are made through public expenditure.

1.1.2Classification / Types of Public Expenditure:-

Classification of public expenditure refers to the systematic arrangement of different items on which the government incurs expenditure. Public expenditure can be classified as follows:-

1) Capital and Revenue Expenditure
2) Development and Non - Developmental Expenditure / Productive and Non - Productive Expenditure
3) Transfer And Non - Transfer Expenditure
4) Plan And Non - Plan Expenditure
5) Other Classification (Mrs. Hicks)

According to World Bank forgovernment budgeting purpose, the public expenditure is classified as follows:

BY ECONOMIC TYPE	BY FUNCTION OR SECTOR TYPE
(a) Wages and salary	(a) General administration
(b) Other goods and services	(b) Defence
(c) Interest	(c) Education
(d) Subsidy and transfer	(d) Health
(e) Investment in fixed asset, and so on	(e) Infrastructure and so on.

[3]www.theoryofeconomics.com/market-economy/government-expenditure

1.2 Economic Growth: Concept

Economic growth is the increase in the amount of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Growth is usually calculated in real terms – i.e., inflation-adjusted terms – to eliminate the distorting effect of inflation on the price of goods produced. In economics, "economic growth" or "economic growth theory" typically refers to growth of potential output, i.e., production at "full employment".

In theoretical terms, analyzing influence of fundamental economic variables on the economic growth and development is based on the basic macroeconomic relation. This relation represents expenditure based approach for calculating gross domestic product in one country:

$$Y = G + C + I + X - M$$

in which Y is gross domestic product, G budget consumption, C private expenditure, I investments, X exports and M imports.[4]

1.2.1Determinants of Economic Growth

There are various determinants of economic growth found by various researchers through various models like neoclassical growth model, Endogenous Growth model, etc. These models have different assumptions which specify its path for its implementation**.**There is name of some determinants found significant for economic growth:

1. Investment (Easterly and Rebelo, 1993)
2. Human Capital(Barro, 1991)
3. Innovation and Research & Development Activities(Aghion and Howitt, 1992)
4. Openness to trade(Barro, 1991)
5. Foreign Direct Investment(Hermes and Lensink, 2000)
6. Institutional Framework(Rodrik ,2000)
7. Political Factors (Lensink, 2001).
8. Social Cultural Factors(Barro and McCleary, 2003)
9. Demographic Trends(Barro, 1997)
10. GDP per Capita(Barro, 1991)
11. National Income per capita(real per capita income)
12. Human development index and others.

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[4]A Simple Algebraic Model of the Simple (Keynesian) Multiplier used to find the Gross domestic product for one country as the description of the equilibrium relationship among all the elements of in the Output-Expenditure model.

1.3 Empirical Evidence of Public Expenditures and Economic Growth

A cautious interpretation of the results of such studies is warranted, however, because not all public programs are necessarily aimed at economic growth and because public expenditures are not all that matter for economic growth. Moreover, the relationship between public expenditures and economic growth is not necessarily unidirectional. Public expenditures affect economic growth, but at the same time economic growth can lead to changes in either aggregate public expenditure (for example, in accordance with Wagner's Law)[5] or some of its components (for instance, through changes in the demand for certain public services).

A variety of empirical studies, based on time-series or cross-country data, have aimed at estimating the contribution of public expenditures to economic growth. Some studies relate aggregate public expenditures to economic growth; others focus on the relationship between certain expenditure components, such as public investment, education or health expenditures, or their components, and economic growth. The major obstacles encountered in these studies include the difficulties involved in (1) valuing public sector outputs; (2) estimating separately the impact of how public expenditures are financed (including the possible crowding out of private investment); and (3) measuring the effects of other factors on economic growth. In addition, using contemporaneous cross-country data to relate public expenditures to economic growth may not yield correct results because many public expenditure projects (for example, those on primary education and physical infrastructure) have long gestation periods.

1.3.1 Adolph Wagner's Law of Increasing State Activity

Adolph Wagner, the German economist made an in depth study relating to rise in government expenditure in the late 19thcentury. Based on his study, he propounded a law called "The Law of Increasing State Activity".
Wagner’s law states that "as the economy develops over time, the activities and functions of the government increase".[6]

According to Adolph Wagner, "Comprehensive comparisons of different countries and different times show that among progressive peoples (societies), with which alone we are concerned; an increase regularly takes place in the activity of both the central government and local governments constantly undertake new functions, while they perform both old and new functions more efficiently and more completely. In this way economic needs of the people to an increasing extent and in a more satisfactory fashion, are satisfied by the central and local Governments."

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[5] Writing in the 1880s, Wagner anticipated that the development of a modern industrial society would give rise to an increase in government expenditure as a result of increasing political pressure for social programs. For more on Wagner's Law, see Wagner (1958). ; [6] ibid

Wagner's Statement Indicates Following Points -

1. In progressive societies, the activities of the central and local government increase on a regular basis.
2. The increase in government activities is both extensive and intensive.
3. The governments undertake new functions in the interest of the society.
4. The old and the new functions are performed more efficiently and completely than before.
5. The purpose of the government activities is to meet the economic needs of the people.
6. The expansion and intensification of government function and activities lead to increase in public expenditure.
7. Though Wagner studied the economic growth of Germany, it applies to other countries too both developed and developing.

2.0 Emerging Economies of the world selected for the study

These developing countries are distinguished from a host of other promising emerging markets by their demographic and economic potential to rank among the world's largest and most influential economies in the 21st century (and by having a reasonable chance of realizing that potential). Together, the four original BRIC countries comprise more than 2.8 billion people or 40 percent of the world's population, cover more than a quarter of the world's land area over three continents, and account for more than 25 percent of global GDP.[7]

Brazil

Brazil is characterized by large and well-developed agricultural, mining, manufacturing, and service sectors, Brazil's economy outweighs that of all other South American countries, and Brazil is expanding its presence in world markets. Since 2003, Brazil has steadily improved its macroeconomic stability, building up foreign reserves, and reducing its debt profile by shifting its debt burden toward real denominated and domestically held instruments. In 2008, Brazil became a net external creditor and two ratings agencies awarded investment grade status to its debt. After strong growth in 2007 and 2008, the onset of the global financial crisis hit Brazil in 2008. Brazil experienced two quarters of recession, as global demand for Brazil's commodity-based exports dwindled and external credit dried up. However, Brazil was one of the first emerging markets to begin a recovery. In 2010, consumer and investor confidence revived and GDP growth reached 7.5%, the highest growth rate in the past 25 years. Rising inflation led the authorities to take measures to cool the economy; these actions and the deteriorating international economic situation slowed growth to 2.7% in 2011, and 1.3% in 2012. Unemployment is at historic lows and Brazil's traditionally high level of income inequality has declined for each of the last 14 years. [8]

[7]CIA The World Factbook; country data and statistics ; [8]ibid

China

Since the late 1970s China has moved from a closed, centrally planned system to a more market-oriented one that plays a major global role - in 2010 China became the world's largest exporter. Reforms began with the phasing out of collectivized agriculture, and expanded to include the gradual liberalization of prices, fiscal decentralization, increased autonomy for state enterprises, creation of a diversified banking system, development of stock markets, rapid growth of the private sector, and opening to foreign trade and investment. China has implemented reforms in a gradualist fashion. In recent years, China has renewed its support for state-owned enterprises in sectors it considers important to "economic security," explicitly looking to foster globally competitive national champions. After keeping its currency tightly linked to the US dollar for years, in July 2005 China revalued its currency by 2.1% against the US dollar and moved to an exchange rate system that references a basket of currencies. The restructuring of the economy and resulting efficiency gains have contributed to a more than tenfold increase in GDP since 1978. Measured on a purchasing power parity (PPP) basis that adjusts for price differences, China in 2012 stood as the second-largest economy in the world after the US, having surpassed Japan in 2001. The dollar values of China's agricultural and industrial output each exceed those of the US; China is second to the US in the value of services it produces. Still, per capita income is below the world average. One consequence of population control policy is that China is now one of the most rapidly aging countries in the world. Deterioration in the environment - notably air pollution, soil erosion, and the steady fall of the water table, especially in the North - is another long-term problem. The government's 12th Five-Year Plan, adopted in March 2011, emphasizes continued economic reforms and the need to increase domestic consumption in order to make the economy less dependent on exports in the future. However, China has made only marginal progress toward these rebalancing goals. **[9]**

South Africa

South Africa is a middle-income, emerging market with an abundant supply of natural resources; well-developed financial, legal, communications, energy, and transport sectors and a stock exchange that is the 15th largest in the world. Subsequently, the global financial crisis reduced commodity prices and world demand. South Africa's economic policy has focused on controlling inflation, however, the country has had significant budget deficits that restrict its ability to deal with pressing economic problems. The current government faces growing pressure from special interest groups to use state-owned enterprises to deliver basic services to low-income areas and to increase job growth. **[10]**

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[9] ibid ;[10]ibid

Russian Federation

Russia has undergone significant changes since the collapse of the Soviet Union, moving from a globally-isolated, centrally-planned economy to a more market-based and globally-integrated economy. Economic reforms in the 1990s privatized most industry, with notable exceptions in the energy and defense-related sectors. The protection of property rights is still weak and the private sector remains subject to heavy state interference. In 2011, Russia became the world's leading oil producer, surpassing Saudi Arabia; Russia is the second-largest producer of natural gas; Russia holds the world's largest natural gas reserves, the second-largest coal reserves, and the eighth-largest crude oil reserves. Russia is also a top exporter of metals such as steel and primary aluminum. Russia's reliance on commodity exports makes it vulnerable to boom and bust cycles that follow the volatile swings in global prices. The government since 2007 has embarked on an ambitious program to reduce this dependency and build up the country's high technology sectors, but with few visible results so far. The economy had averaged 7% growth in the decade following the 1998 Russian financial crisis, resulting in a doubling of real disposable incomes and the emergence of a middle class. Russia has reduced unemployment to a record low and has lowered inflation below double digit rates. **[11]**

India

India is developing into an open-market economy, yet traces of its past autarkic policies remain. Economic liberalization measures, including industrial deregulation, privatization of state-owned enterprises, and reduced controls on foreign trade and investment, began in the early 1990s and have served to accelerate the country's growth, which averaged under 7% per year since 1997. India's diverse economy encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of services. Slightly more than half of the work force is in agriculture, but services are the major source of economic growth, accounting for nearly two-thirds of India's output, with less than one-third of its labor force. India has capitalized on its large educated English-speaking population to become a major exporter of information technology services, business outsourcing services, and software workers. In 2010, the Indian economy rebounded robustly from the global financial crisis - in large part because of strong domestic demand - and growth exceeded 8% year-on-year in real terms. However, India's economic growth began slowing in 2011 because of a slowdown in government spending and a decline in investment, caused by investor pessimism about the government's commitment to further economic reforms and about the global situation. High international crude prices have exacerbated the government's fuel subsidy expenditures, contributing to a higher fiscal deficit and a worsening current account deficit. In late 2012, the Indian Government announced additional reforms and deficit reduction measures to reverse India's slowdown, including allowing higher levels of foreign participation in direct investment in the economy.

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[11] ibid

The outlook for India's medium-term growth is positive due to a young population and corresponding low dependency ratio, healthy savings and investment rates, and increasing integration into the global economy. [12]

Indonesia

Indonesia, a vast polyglot nation, grew more than 6% annually in 2010-12. The government made economic advances under the first administration of President YUDHOYONO (2004-09), introducing significant reforms in the financial sector, including tax and customs reforms, the use of Treasury bills, and capital market development and supervision. During the global financial crisis, Indonesia outperformed its regional neighbors and joined China and India as the only G20 members posting growth in 2009. The government has promoted fiscally conservative policies, resulting in a debt-to-GDP ratio of less than 25%, a fiscal deficit below 3%, and historically low rates of inflation. Fitch and Moody's upgraded Indonesia's credit rating to investment grade in December 2011. [13]

Table1: Country Economy Statistics

COUNTRY NAME		BRAZIL	CHINA	INDIA	INDONESIA	RUSSIA	SOUTH AFRICA
	YEAR						
Subject Descriptor							
Gross domestic product, constant prices(Percent change)	2011	2.733	9.237	7.241	6.457	4.3	3.148
	2012	3.026	8.233	6.858	6.1	4.012	2.652
Gross domestic product per capita, constant prices(National currency in BILLIONS)	2011	7697.187	11458.521	46221.204	10219635	290710.834	37479.795
	2012	7865.804	12340.248	48734.978	10690574.5	303412.314	38017.624
Total investment(Percent of GDP)	2011	20.559	48.243	37.148	32.77	20.695	19.426
	2012	21.214	47.742	35.412	33.629	23.159	19.775
Gross national savings(Percent of GDP)	2011	18.449	53.473	35.082	33.015	25.399	16.61
	2012	17.998	52.89	32.144	33.21	28.625	16.471
General government total expenditure(Percent of GDP)	2011	38.821	23.581	27.125	18.986	36.795	32.024
	2012	38.592	24.137	27.109	18.861	38.136	31.718

Source: International Monetary Fund, World Economic Outlook Database, April 2012

[12] ibid ; [13] ibid

3.0 Literature Review

Research has shown that as the economy develops, the expenditure of government tends to increase with increase in economic activities. Growth may vary from one country to another. There are three major contributory factors towards the growth in government expenditure.

Wagner's law cited in Likita (1999:45-46) states that ``as per capital income of an economy grows, there will be increase in the number of urban centers with the associated social vices such as crime which requires the intervention of the government to maintain law and order and these interventions by the government have lots of implications, leading to the increase in public expenditure in the economy``.

Wagner says, (1999:46) that there is a positive relationship between the per capital income of the citizens in a country with government spending such that the income elasticity of government expenditure is always greater than one. However, other researchers have discovered that the relationship is not always certain because there are periods when government expenditure in relations to the national income will decline when the elasticity of income to government expenditure is less than one (inelastic).

3.1 Review of Previous Studies

No.	Author(S)	Journal/ Publication /Thesis	Title	Type Of Methodol -ogy And Period	Sample Country/ Ies)	Findings
❖	**ShantayananDevarajan, VinayaSwaroop, Heng-Fu Zou (1996)**	Journal of Monetary Economics 37 (1 996) 3 1 3-344	The composition of public expenditure and Economic growth	Co-Integration Test And The Granger Causality Test (1970-1990)	43 Developing Countries	An increase in the share of current expenditure has positive and statistically significant growth effects. By contrast, the relationship between the capital component of public expenditure and per-capita growth is negative.
❖	**Alfredo Del MonteAnd ErasmoPapagni (1997)**	Society for Economic Dynamics, Oxford	Public expenditure, corruption, and economic growth: The case of Italy	Dynamic Panel Data Approach (1963-1991)	for 20 Italian regions	To estimate the effect of corruption on the productivity of expenditure on public investment. This effect is significant and distinct from a direct negative one of corruption on the growth rate.

❖	**MuhlisBağdigen&HakanÇetintaş (2002)**	Journal of Economic and Social Research 6 (1)	Causality between public expenditure and economic Growth: the turkish case	Co-Integration Test And The Granger Causality Test(1965-2000)	Turkey	Found no Causality in both directions.
❖	**Niloy Bose , M. EmranulHaque And Denise R. Osborn (2003)**	The Manchester School Vol 75 No. 5 September 2007	Public expenditure and economic growth: A disaggregated analysis for Developing countries	Over The Regression Analysis And Effects(1970- 1980)	30 Developing Countries	The share of government capital expenditure in GDP is positively And significantly correlated with economic growth, but current expenditure is insignificant. Second, at the disaggregated level, government Investment in education and total expenditures in education are the only outlays that are significantly associated with growth.
❖	**John LoizidesAnd George Vamvoukas (2004)**	Journal of Applied Economics, Vol. VIII, No. 1 (May 2005),	Government expenditure and Economic growth: evidence from Trivariate causality testing	Bivariate Error Correction Model Within A Granger Causality Framework ,'Trivariate' Analysis(1960 - 1995)	Greece, UK And Ireland	Government size granger causes economic growth in all countries of the sample in the short run and in the long run for Ireland and the UK; ii) economic growth granger causes increases in the relative size of government in Greece, and, when inflation is included, in the UK.
❖	**Manh Vu Le ,Terukazu Suruga (2005)**	GSICS Working Paper Series	The effects of FDI and public expenditure on economic growth: From theoretical model to empirical evidence	Endogenous Growth Theory (1970 To 2001)	105 developed and developing countries	This article examines some other potential relationships between FDI and public expenditure and proposes that more efforts should be contributed in building a theoretical model which presents the interrelationship between these factors in determining the long-term economic growth rate.
❖	**Tatsuyoshi**	Discussion	Public	Panel Data	Japan	The resulting optimal

	Miyakoshi, Yoshihiko Tsukuda, TatsuhitoKono, Makoto Koyanagi (2007)	Papers In Economics And Business	expenditure composition and economic growth: Optimal adjustment by using gradient method	Analysis (1981-2002)		adjustment shares are proportional to the deviations from the average over elements of a gradient vector and independent from the choice of regression equations.
❖	**Anuradha De And Tanuka Endow (2008)**	RECOUP Working Paper No.18	Public expenditure on education in India: recent trends and outcomes	Time Series Analysis (1990-2006)	India	The analysis finds that the centre has been playing an increasingly important role in state education finance. It indicates that for the less developed states recent changes in education expenditure have improved access, but retention and learning achievements remain very low.
❖	**Constantinos Alexiou (2009)**	Journal of Economic and Social Research 11(1) 2009, 1-16	Government spending and economic growth: Econometric evidence from the South Eastern Europe (SEE)	Panel Data Methodologies (1970-1995)	South Eastern Europe (SEE)	The evidence generated indicate that four out of the five variables used in the estimation i.e. Government spending on capital formation, development assistance, private investment and trade-openness all have positive and significant effect on economic growth. Population growth in contrast, is found to be statistically insignificant.
❖	**V.Shivaranjani(2010)**	MADRAS SCHOOL OF ECONOMICS ANNA UNIVERSITY	Size and composition of government expenditure in India: Impact on economic growth	Dynamic Panel Framework (Using Arellano-Bond Estimation) (1960 - 2008)	Fourteen Major Indian States	Overall government size has a negative influence on per capita GDP growth, increasing public expenditure on education, health and economic infrastructure have significant positive growth effects, with the merit goods category (education and health) showing a higher effect than the other.

❖	**Sacchidananda Mukherjee and DebashisChakraborty (2010)**	MPRA Paper No. 22997, posted 1. June 2010 17:30 UTC.	Is there any relationship between Economic Growth and Human Development? Evidence from Indian States#	Time Series Analysis (1983, 1993, 1999-00 and 2004-05)	28 Indian States	The result showsthat that per capita income is not translating into human well being.The result shows the need for further investigation to determine the underlyingfactors (other than per capita income) which influence HD achievements of a State.
❖	**B.C. Olopade ,D.O. Olopade (2010)**	Igbinedion University Okada, Edo State, Nigeria	The impact of government expenditure on economic Growth and development in developing countries: Nigeria as a case study	And Regression Analysis (1990 - 2004)	Nigeria	This study finds no signified relationship between most of the components expenditure, economic growth and development. The estimated result where mixed in particular, some of the variables were weakly significant as a result of none inclusion of effect of environmental impacts.
❖	**Abu Shonchoy (2010)**	Leibniz Information Centre for Economics	What is happening with the government Expenditure of Developing countries - a panelData study	Panel Data Analysis (1984-2004)	111 Developing Countries	Political and institutional variables as well as governance variables significantly influence government expenditure and corruption is found to be influential in explaining the public expenditure of developing countries and size of the economy and linguistic fractionalization is found to have significant negative association over government expenditure.
❖	**KhairulShahril Bin Hamzah (2011)**	Ritsumeikan Asia Pacific University	The association between government expenditure and Economic growth in Malaysia	OLS Regression (1970 To 2007)	Malaysia	However, this study finds no relationship between total governmental development expenditure in social services and Economic growth. In addition, this study finds a mix of results for the Association between

						government development expenditure by sectors and economic growth. Out of eleven sectors, only three sectors which are transport, public utilities and health have a positive and significant relationship towards economic growth.
❖	**WilliSemmler, Alfred Greiner, BoboDiallo, AnandRajaram And ArmonRezai (2011)**	MPRA Paper No. 35997, posted 17. January 2012	Fiscal policy, public expenditure Composition and growth	A Time Series Approach. (1994 – 2004)	Theory And Empirics	The proposed model is numerically solved, calibrated and the impact of the composition of public expenditure on the long-run per capita income explored for low-, lower-middle- and Upper middle-income countries.
❖	**Norman Gemmell, Richard Kneller And Ismael Sanz (2012)**	World Bank Working paper series 2012	Does the composition of government expenditure matter for economic growth?	Regression Methods And VECM (1970-1990)	OECD Countries	Results provide robust evidence that reallocating total spending towards infrastructure and education would be positive for long-run growth.
❖	**John Mudaki ,Warren Masaviru (2012)**	Journal of Economics and Sustainable Development Vol.3, No.3, 2012	Does the composition of public expenditure matter to Economic growth for kenya?	Using Ordinary Least Squares (1972 To 2008)	Kenya	Expenditure on education was a highly significant determinant of economic growth while Expenditure on economic affairs, transport and communication were also significant albeit Weakly. In contrast, expenditure on agriculture was found to have a significant though Negative impact on economic growth.
❖	**Nworji, Ifeanyi Desmond ,Okwu, Andy Titus, ObiwuruTimothy C. ,Nworji,**	International Journal of Management Sciences and Business Research, 2012, Vol. 1, Issue 7.	Effects of public expenditure on economic growth in nigeria: A disaggregated	Ols Multiple Regression (1970 – 2009)	Nigeria	Capital and recurrent expenditure on economic services had insignificant negative effect on economic growth; capital expenditure on transfers had insignificant positive effect on growth. But

	Lucy Odiche (2012)		time series analysis			Capital and recurrent expenditures on social and community services and recurrent Expenditure on transfers had significant positive effect on economic growth.
❖	**Sanusi Fattah , AspaMuji(2012)**	IOSR Journal Of Humanities And Social Science (JHSS)	Local Government Expenditure Allocation toward Human Development Index at Jeneponto Regency, South Sulawesi, Indonesia	We use multiple regression models(1998 - 2007)	Indonesia	The result of this study shows that the allocation of government expenditure on education, health and infrastructure have a positive and significant effect to improve Human Development Index in Jeneponto regency.
❖	**Santiago Acosta-Ormaechea ,Atsuyoshi Morozumi (2013)**	IMF WORKING PAPER	Can a government enhance long-run growth by Changing the composition of public expenditure?	Dynamic Panel GMM Model (1970–2010)	56 Countries(14 Low, 16 Medium, And 26 High Income Countries	They found that a rise in education spending has a positive and statistically robust effect on growth. They also found that public capital spending, relative to current spending, appears to be associated with higher growth, yet in this case the result is not robust.
❖	**Antonio N. Bojanic (2013)**	Latin American journal of economics Vol. 50 No. 1 (MAY, 2013),	The composition of government Expenditures and Economic growth in Bolivia	Generalized Method Of Moments (GMM) Method (1940-1960)	Bolivia	The results indicate that defense expenditures, decentralized expenditures (local or regional), and expenditures in SANTA CRUZ department represent the best ways for government to boost the country's growth. Expenditures on additional areas, such as education, and in other promising departments, have the potential for generating significant growth and should be considered areas for possible government

						intervention.
❖	**Syed Ammad Ali1, HasanRaza, Muhammad UmairYousuf**		The role of fiscal policy in human development: the Pakistan's perspective	autoregressive distributed lags (ARDL) bounds testing approach (1972 - 2010)	Pakistan	The results show that increase in per capita income and education expenditure have positive effect and current expenditure has negative impact on the human development. The political regime of the democratic governments has a negative effect on human development.
❖	**ArshiaAmiriA, B, And Bruno Ventelou**	Munich Personal RePEc Archive	Forecasting the role of public expenditure in economic growth using DEA-Neural network approach	Data Envelopment Analysis (DEA) And Artificial Neural Networks (ANN) (1989 - 1999)	OECD Countries	At the end of the DEA-ANN chain, prediction-power tests appear positive: best structures of multiple hidden layers indicate more ability to forecast according to best structures of single hidden layer but the difference between those is not much.
❖	**CarstenColombier**	Swiss Federal Finance Administration working paper	Does the composition of public expenditure affect economic growth? Evidence from Switzerland	Time-Series Analyses(1950 To 2004)	Switzerland	Findings provide strong evidence that government outlays for transport infrastructure, justice and defense are vital for output growth. In contrast,Healthcare expenditure would appear to hamper growth.
❖	**Alfonso Arpaia And Alessandro Turrini**		Government expenditure and economic growth in the EU: Long-run tendencies and short-term adjustment	Panel Unit Root And Panel Cointegration Tests , Pooled Mean Group Estimation (1970-2003)	EU Countries	The long-run elasticity is however not stable over time (it decreased considerably over the decades) and is Significantly higher than unity in catching-up countries, in fast-ageing countries, in low-debt countries, and in countries with weak numerical rules for the control of government spending.
❖	**Benjamin S. Cheng1 and**	JOURNAL OF ECONOMIC	Government expenditures	A VAR Techniques	South Korea	This study finds that there is bidirectional causality

	Tin Wei Lai	DEVELOPMENT Volume 22, Number 1, June 1997	and economic growth In South Korea: a VAR approach	(1954-1994)		between government expenditures and economic growth in south Korea. It is also found that money supply affects economic growth as well.
❖	**Chiawa, M.M. Torruam, J. T. Abur**	INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VOLUME 1, ISSUE 8, SEPTEMBER 2012 ISSN 2277	Cointegration and causality analysis of government expenditure and economic growth in Nigeria	ADF And KPSS Tests (1970 To 2008)	Nigeria	The study recommends that government should ensure that capital and recurrent expenditures are properly managed to accelerate economic growth.
❖	**Prakash Kumar Shrestha**	Department of Economics, New School for Social Research, New York	The composition of public expenditure, Physical infrastructure and economic growth In Nepal	Time Series Perspective Based On The Endogenous Growth Model (1980-2007)	Nepal	The impact of public expenditure on economic growth has been found to be positive. Hence, low economic growth in Nepal in recent years can be attributed to low government expenditure on infrastructure.
❖	**Mohammad JavadRazmi, EzatollahAbbasian, Sahar Mohammad**	Journal of Knowledge Management, Economics and Information Technology	Investigating the Effect of Government Health Expenditure on HDI in Iran	ordinary least squares method (OLS) (1990-2009)	Iran	The results show a positive and significant relationship between government health expenditure and human development index.

3.2Research Gap

There are number of studies which find out the relationship between public expenditure and economic growth. **There are various studies(Alexiou(2009), Miyakoshi, Tsukuda, Kono, Koyanagi (2007) Alfredo Del MonteAndErasmoPapagni(1997),CarstenColombier(2000), Loizides And Vamvoukas(2004)) which find** developed countries like OECD, Switzerland ,Greece, U.K. Italy have positive and unidirectional relationship from public expenditure to economic growth and there are some studies (**V.Shivaranjani(2010),Devarajan, Swaroop, Zou(1996),Anuradha De And Tanuka Endow (2008)**) which find developing countries like India, Bolivia , Nepal has positive relation for long run growth(unidirectional) while South Korea has positive bidirectional impact.

Some studies(**MuhlisBağdigen&HakanÇetintaş (2002), John Mudaki ,Warren Masaviru(2012))** find developimg countries like Nigeria , Malaysia, Turkey ,Kenya has no/ weakly relation between public expenditure and economic growth .There are various studies**(Ali, Raza&Yousuf , Mukherjee and Chakraborty(2010) , Razmi, Abbasian, & Mohammad, Sanusi Fattah &Muji (2012))** which finds positive and significant relationship between public expenditure (different areas) and human development index. In most of the studies granger causality, cointegration analysis, panel data study, VECM techniques or GMM method is used. Developing countries has different relationship status.

Tilltoday, No work have been done over selected developing countries for selected period (i.e. From 2000-01 to 2013-14) and no model has been developed .Under this study, model will be developed to understand the relationship between public expenditure and economic growthfor the Selected developing countries.

4.0 Need of the Study

In modern economic activities public expenditure has to play an important role. It helps to accelerate economic growth and ensure economic stability. Thus public expenditure has to create and maintain conditions conducive to economic development. **This study is an attempt to find the impact of public expenditure on economic growth of selected developing countries during specified period (from 2000-01 to 2013-14).**

5.0 Objectives of the Study

The study will be based on the following objectives:

1. To study the components / Items of Public Expenditureof selected developing countriesunder specified period.
2. To analyze the relationship between PublicExpenditure (components wise) and Economic Growth(determinant wise) of all selected countriesunder specified period.
3. Predicting economic growth on the basis of public expenditure through appropriate model.

6.0Research Design and Methodology

Research design & methodology is the back bone of any research study. The researcher proposes the following research procedure for this study:

6.1 Hypotheses

Ideally, based on the concept of big and small government and in conjunction with the Keynesian views and Wagner's Law, this study defines the general hypothesis as that government expenditure has a relationship towards economic growth. To gives the scientific base to the study, the following hypotheses will be tested in the study:

Ho1: Country specific Public Expenditure and country specific Gross Domestic Productper capita is independent of each other.

Ho2: Country specific Public Expenditure and Country specific National Income per capita are independent of each other.

Ho3: Country specific Public Expenditure and Country specific Human Development Index are independent of each other

6.2 Scope of Study

Countries included in the Study:
In the proposed study six emerging economies i.e. **India, Brazil, Russian Federation, China, Indonesia and South Africa** have been selected.

Period of Study:
The duration of study is from **2000-01 to 2013-14.**

Variables Selected for the Study:

Selected Items of Public Expenditure(Description and sources given in Appendix)

1. Health expenditure 2. Energy expenditure 3. Transport expenditure	4. General government final consumption expenditure 5. Research and Development expenditure 6. Telecoms expenditure 7. Water and sanitation expenditure.	8. Military expenditure 9. Education Expenditure 10. Adjusted savings: education expenditure 11. Other expenses

Selected Determinants of Economic Growth (Description and sources given in Appendix)

1. GDP per capita	2. National Income per capita (Real per capita income)	3. Human Development Index (HDI).

6.3Data Collection

Primary Data

Primary Data will be collected through the interviews from government officials, academicians and people working in the area.

Secondary Data

Secondary Data will be collected through publications of ministry of finance, IMF, UNDP, UNESCO website, journals, magazines and books.

6.4 Research Methodology of the Study

For achieving research objectives following methods will be used:-

No.	Research Objectives	Research Methodology
1	To study the components/Items of public expenditure of selected countries under specified period.	To fulfill first objective, Trend analysis of Public Expenditure (component basis) will be conducted and countries will be ranks on the basis of their Compound Annual Growth Rate (CAGR). The Public Expenditure (components basis) will be evaluated in reference to GDP and also to the percentage of total public expenditure.
2	To analyze the relationship between Public Expenditure (components basis) and economic growth (determinants basis) of all selected countries under specified period.	To fulfill second objective ,'Granger Causality', 'Unit Root test', 'Co integration test', 'Vector error correction model' or 'VAR techniques', 'Panel Data Study', will be used according to need of study.
3	Predicting Economic Growth on the basis of Public Expenditure through appropriate model.	To fulfill third objective appropriate model will be used. There are selected components of public expenditure considered for study and units of measure will be taken either in currency or proportion or log as per the requirement of variable.

6.5 Tool and Techniques of the study

- Descriptive and Inferential Statistics
- Appropriate Test and Model

7.0 Chapters Plan

CHAPTER 1- PUBLIC EXPENDITURE AND ECONOMIC GROWTH

(A) AN OVERVIEW
(B) RELATIONSHIP BETWEEN PUBLIC EXPENDITURE AND ECONOMIC GROWTH
(C) REVIEW OF EARLIER STUDIES

CHAPTER 2- RESEARCH OUTLAY

CHAPTER 3- PROFILE *OF SELECTED DEVELOPING COUNTRIES*

CHAPTER 4- ANALYSIS AND TESTING OF HYPOTHESES

CHAPTER 5- FINDINGS

CHAPTER 6- CONCLUSION AND SUGGESTIONS

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- *hdr.**undp**.org/en/statistics/*
- *www.**nber**.org*

NEWSPAPER

- Times Of India
- Hindustan Times
- Economics Times
- The Hindu

9.0 Appendix

Variable description and sources

Variable	Description	Source
Health expenditure	Health expenditure is the amount spent by central government for the public either directly or indirectly.	World Health Organization National Health Account database
General government final consumption expenditure	General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures	World Bank national accounts data, and OECD National Accounts data files.
Military expenditure	Military expenditures includes all current and capital expenditures on the armed forces, including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, if these are judged to be trained and equipped for military operations; and military space activities.	World Bank national accounts data, and OECD National Accounts data files.
Other expenses	Expense is cash payments for operating activities of the government in providing goods and services. It includes compensation of employees (such as wages and salaries), interest and subsidies, grants, social benefits, and other expenses such as rent and dividends.	International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.
Research and development expenditure	Expenditures for research and development are current and capital expenditures (both public and private) on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture, and society, and the use of knowledge for new applications.	United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.
Adjusted savings: education expenditure	Education expenditure refers to the current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment.	World Bank national accounts data, and OECD National Accounts data files.
GDP per capita	GDP per capita is gross domestic product divided by midyear population.	World Bank national accounts data, and OECD National Accounts data files.
Real per capita income	National Income at constant Price divided by population.	World Bank national accounts data, and OECD National Accounts data files.

Variable	Description	Source
Education Expenditure	Public expenditure on education includes government spending on educational institutions (both public and private), education administration, and transfers/subsidies for private entities (students/households and other privates entities).	UNESCO Institute for Statistics
Energy expenditure	Investment in energy projects with private participation covers infrastructure projects in energy (electricity and natural gas transmission and distribution) that have reached financial closure and directly or indirectly serve the public.	World Bank national accounts data, and OECD National Accounts data files.
Telecoms expenditure	Investment in telecom projects with private participation covers infrastructure projects in telecommunications that have reached financial closure and directly or indirectly serve the public.	World Bank national accounts data, and OECD National Accounts data files.
Transport expenditure	Investment in transport projects with private participation covers infrastructure projects in transport that have reached financial closure and directly or indirectly serve the public.	World Bank national accounts data, and OECD National Accounts data files.
Water and sanitation expenditure	Investment in water and sanitation projects with private participation covers infrastructure projects in water and sanitation that have reached financial closure and directly or indirectly serve the public.	World Bank national accounts data, and OECD National Accounts data files.
Human Development Index(HDI)	a composite statistic of life expectancy, education, and income indices.	Development Reports of the United Nations Development Programme (UNDP)
Life Expectancy Index(LEI)	Life expectancy at birth.	Development Reports of the United Nations Development Programme (UNDP)
Education Index (EI)	Mean years of schooling and Expected years of schooling.	Development Reports of the United Nations Development Programme (UNDP)
Income Index (II)	A decent standard of living :Gross national income at purchasing power parity per capita.	Development Reports of the United Nations Development Programme (UNDP)

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